NORTHERN ARIZONA
Integrated Weed Management Practices

Introduction

Integrated weed management "is a system for the planning and implementation of a program, using an interdisciplinary approach, to select a method for containing or controlling an undesirable plant species or group of species using all available methods" (Food, Agriculture, Conservation, and Trade Act of 1990). Together these strategies and techniques are economically and environmentally more effective than any single option. All control methods are available and will be prescribed on a species/infestation specific basis. Elements of Integrated Management included in this plan are:

Exclusion, Prevention and Early Detection
Education/Awareness
Inventory, Mapping and Monitoring
Control (including physical, biological, cultural and chemical methods)
Coordination and Cooperation

Preventing the introduction and spread of noxious weeds is one objective of Integrated Weed Management Programs on National Forest System lands throughout the United States. This Guide to Integrated Weed Management Practices provides a comprehensive directory for use in planning and wildland resource management activities and operations. This Guide will help managers and cooperators identify weed management practices that mitigate identified risks of weed introduction and spread for a project or program.

Supporting Direction

This Guide to Integrated Weed Management Practices supports implementation of the February 3, 1999 Executive Order on Invasive Species. Federal agencies are expected to follow the direction in the Executive Order 13112.

Development of weed management practices is supported by Forest Service noxious weed policy and strategy. Forest Service policy identifies prevention of the introduction and establishment of noxious weed infestations as an agency objective. This policy directs the Forest Service to: (1) determine the factors that favor establishment and spread of noxious weeds, (2) analyze weed risks in resource management projects, and (3) design management practices to reduce these risks. The Forest Service Noxious Weed Strategy identifies development of practices for prevention and mitigation during ground-disturbing activities as a long-term emphasis item. The February 1999 Executive Order on Invasive Species requires Federal agencies to use relevant programs and authorities to prevent the introduction of invasive species and not authorize or carry out actions that are likely to cause the introduction or spread of invasive species unless the agency has determined, and made public, documentation that shows that the benefits of such actions clearly outweigh the potential harm, and all feasible and prudent measures to minimize risk of harm will need to be taken in conjunction with the actions.

This Guide uses the term "*weed*" to include the National Invasive Species Council definition of all plants exotic to the relevant ecosystem that have the potential to cause economic or ecological harm. The term "*noxious weed*" has legal definitions by Forest Service policy:

> **". . .plants designated as noxious weeds by the Secretary of Agriculture or by the responsible State official. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and being native or new to or not common to the United States or parts thereof."** (FSM 2080.5)

For the Coconino, Kaibab, and Prescott National Forests use the Arizona State-defined noxious weed list (R3-4-244 & 245) as well as the region/forest designated weed list. The listed weed species are the priority for implementing weed management in cooperation with neighbors and partners as specified in CFR- 222.8.

General Integrated Weed Management Practices
for ALL Site-disturbing Projects and Maintenance Programs

Objective	Best Known Practice
1) Incorporate weed prevention and control into project layout, design, alternative evaluation, and project decisions.	1.1) Environmental analysis for projects and maintenance programs will need to assess weed risks, analyze potential treatment of high-risk sites for weed establishment and spread, and identify prevention practices. Determine prevention and maintenance needs, including the use of herbicides if needed, at the onset of project planning. 1.2) Coordinate with other agencies and adjacent landowners to prevent and control weeds. (CFR222.8)
2) Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds	2.1) Before ground-disturbing activities begin, inventory and prioritize treatment of invasive weeds in project operating areas and along access routes, or within reasonably expected potential invasion vicinity. Do a risk assessment accordingly; control weeds as necessary. 2.2) After completing "Practice 2.1" above, reduce risk of spreading and creating weed infestations. Plan operating areas and access routes to avoid heavy infestation areas, plan closure of access routes at finish of project, and/or begin project operations in un-infested areas before operating in weed-infested areas. Locate and use weed-free project staging areas. Avoid or minimize all types of travel through weed-infested areas, or restrict to those periods when spread of seed or propagules are least likely. **Equipment Wash Station – Centralized wash station areas will be developed in several locations throughout the CNF. They must have a filter system , for example at least 6 inches of large cinder or gravel spread over an area 10'x 30'. Filter cloth may be used for temporary stations. The area will be a perched drainage to allow excess moisture to drain after being filtered. And must be at least 200 yards from a natural drainage to avoid contamination. All wash station locations must be monitored annually and all weed materials removed as soon as possible.** 2.3) Remove mud, dirt, and plant parts from project equipment before moving it into a project area. Determine the need for, and when appropriate, identify sites where equipment can be cleaned. Clean all equipment before entering National Forest System lands; a Forest Officer, in coordination with the Unit Invasive Species Coordinator, needs to approve use of on-Forest cleaning sites in

2) Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds. (cont.)	advance. This practice does not apply to service vehicles traveling frequently in and out of the project area that will remain on a clean roadway. Seeds and plant parts need to be collected when practical and incinerated. 2.4) If operating in areas infested with weeds, clean all equipment, before leaving the project site. To minimize time spent cleaning equipment time all work in infested areas last and concurrently, designate a "contaminated" parking lot where project vehicles working in the infested area may be parked for the duration of the project. This area should be monitored in follow-up mitigation and should be near a "clean" vehicle/equipment lot. Identify sites where equipment and vehicles can be cleaned before leaving site at end of project. Seeds and plant parts need to be collected when practical and incinerated. 2.5) Workers need to inspect, remove, and properly dispose of weed seed and plant parts found on their clothing and equipment after being trained to recognize the priority species in the area. Proper disposal means bagging the seeds and plant parts and incinerating them. 2.6) Coordinate project activities between resources and between agencies (such as City, County, ADOT, ASLD) with any nearby weed treatments, including herbicide applications, to maximize cost effectiveness of weed treatments.
3) Prevent the introduction and spread of weeds caused by moving infested sand, gravel, borrow, and fill material in Forest Service, contractor and cooperator operations.	3.1) Inspect material sources on site annually, and ensure that they are weed-free before use and transport. Treat weed-infested sources for eradication, and strip, stockpile, and treat contaminated material before using pit materials. 3.2) Inspect and document the areas where materials are used (including those from treated weed-infested sources) annually for at least three years after project completion to ensure that any weeds transported to the site are promptly detected and controlled. 3.3) Maintain stockpiled, un-infested material in a weed-free condition. 3.4) Work with the responsible transportation agencies to adopt these practices for maintenance of roads that cross National Forest System lands.
4) Avoid creating soil conditions that promote weed	4.1) Minimize soil disturbance to the extent practical, consistent with project objectives.

germination and establishment	4.2) In those vegetation types that have relatively closed canopies as a natural condition, retain shade to the maximum extent possible to suppress weeds and prevent their establishment and growth in and around project activity.
5) Where project disturbance creates bare ground, establish vegetation to minimize favorable conditions for weeds **5(cont.) Where project disturbance creates bare ground, establish vegetation to minimize favorable conditions for weeds**	5.1) Treat disturbed soil (except surfaced projects) in a manner that optimizes native plant establishment for that specific site. Define for each project what constitutes disturbed soil and objectives for plant cover revegetation. 5.2) Revegetation may include topsoil replacement, native seedbank promotion, planting, seeding, fertilization, and/or weed-seed-free mulching as necessary. Use local native material where appropriate and feasible (or specifically identify why not used). Always use certified weed-free and weed-seed-free hay or straw. Always use certified materials in areas closed by administrative order; refer to Appendix 3 for a sample closure order. Where practical, stockpile weed-seed-free topsoil from the project area and replace it on disturbed areas (e.g. road embankments, staging areas, wash stations, or landings). 5.3) Use local seeding guidelines to determine detailed procedures and appropriate mixes. To avoid weed-contamination, a certified seed laboratory needs to test each lot against the all-State noxious weed list to Association of Seed Technologists and Analysts (AOSTA) standards, and provide documentation of the seed inspection test. Seed lots labeled as certified weed-seed-free at time of sale may still contain some weed seed contamination. 5.4) Monitor and document all limited term ground-disturbing operations near noxious weed infested areas for at least five growing seasons, or the documented seed viability for the species of concern following completion of the project. For on-going projects, continue to monitor until reasonable certainty is obtained that no weeds have occurred. Provide for follow-up treatments based on inspection results. 5.5) Evaluate options, including closure, to minimize future infestations on sites where desired vegetation needs to be established.

6) Improve effectiveness of prevention practices through weed awareness and education.	6.1) Provide information, training and appropriate weed identification materials to people potentially involved in weed introduction, establishment, and spread on National Forest System lands, including agency managers, employees, forest workers, permit holders, and recreational visitors. Educate them to an appropriate level in weed identification, biology, impacts, and effective prevention measures. Educate resource level managers to allow them to incorporate weed prevention practices in their planning of projects and daily activities. 6.2) Provide proficient weed management expertise at each administrative unit. Expertise means that necessary skills are available and corporate knowledge is maintained. 6.3) Develop incentive programs encouraging weed awareness, detection, reporting, and for locating new invaders.
7) Set the example; maintain weed-free administrative sites.	7.1) Treat weeds at administrative sites and use weed prevention practices to maintain sites in a weed-free condition.

Integrated Weed Management Practices for *Fire Management Projects and Maintenance Programs*

Objective	Best Known Practice
FIRE MANAGEMENT	
	Pre-incident - Training and Planning
FM-1) Improve effectiveness of prevention practices through weed awareness and education for Incident Management Teams.	1.1) Increase weed awareness, weed identification and weed prevention in all fire training. 1.2) Include weed risk factors and weed prevention practices in Resource Advisor duties on all Incident Management Teams and Burn Rehabilitation Teams. 1.3) Assign a local weed specialist or include in Resource Advisor duties to the Incident Management Team when wildfire or control operations occur in or near a noxious weed area. 1.4) Resource Advisors need to provide briefings that identify operational practices to reduce weed spread, (for example: avoiding known weed infestation areas when locating fire lines). Include this information in shift briefings. 1.5) Provide weed identification aids to Field Observers.
	Wildfires – General - All wildfire weed prevention goals apply except in instances where human life or property is at risk.
FM-2) Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds.	2.1) Ensure that all outside (rental, other agency or unit) equipment is free of weed seed and propagules before it is accepted by the contracting officers representative. 2.2) Maintain a network of airports, helibases, camps, and staging areas in a weed-free condition. Coordinate with local weed specialists to locate and treat practice jump areas to make them weed-free. 2.3) Monitor and treat weeds that establish at equipment cleaning sites after fire incidents. 2.4) If safety precautions allow, inspect and clean all fire equipment (boots, shovels, tents, rigs, tankers, water buckets, etc..) prior to moving from weed infested lands or lakes to areas that are not infested. If not possible before-hand, then power wash all equipment in a designated/mapped/monitored wash site (4-6” of cinder/gravel with controlled drainage)

FM-3) Avoid creating soil conditions that promote weed establishment.	3.1) Use appropriate suppression tactics to reduce suppression-induced disturbances to soil and vegetation while minimizing seedbed creation due to disturbance from fire effects.
	Prescribed Fire
FM-4) Manage fire as an aid in control of weeds to prevent new weed infestations and the spread of existing weeds.	4.1) Pre-inventory project area and evaluate weeds present with regard to the effects on the weed spread relative to the fire prescription. Remove weeds (live plants and seed sources) before project initiation. 4.2) Plan to avoid or remove existing sources of weed seed and propagules. Avoid ignition and burning in areas at high risk for weed establishment or spread due to burn after effects. Treat weeds that establish or spread because of unplanned burning of weed infestations. 4.3) Burn non-infested areas first before entering weed infested sections of the burn. Clean all equipment when project is completed. **Or treat and burn all infested areas first to remove seed source then clean equipment and proceed to un-infested areas.**
FM-5) Avoid creating soil conditions that promote weed germination and establishment.	5.1) Time burns to promote native species and to hinder weed species germination. 5.2) Consult weed species-specific information and consider effects of current local conditions on species growth.
	Fire Rehabilitation
FM-6) Incorporate weed management into project layout and design.	6.1) Evaluate weed status and risks in Burned Area Emergency Rehabilitation plans. When appropriate, apply for Burned Area Emergency Rehabilitation and restoration funding to inventory, control, and monitor weeds. If the presence of weed seed is suspected, request BAER funds to inspect and document for spring emergence.
FM-7) Encourage vegetation establishment as appropriate to the site objectives.	7.1) To minimize weed spread, treat weeds in burned areas as part of the Burned Area Emergency Rehabilitation plan. For adjacent known infestations that will likely spread, remove the potential contaminating seed source and encourage competitive species. 7.2) Inspect and document weed establishment at fire access roads, cleaning sites, all disturbed staging areas, and within burned areas; control infestations to prevent spread within burned areas.

	7.3) Seed and straw mulch to be used for burn rehabilitation (for wattles, straw bales, dams, etc.) all need to be inspected and certified free of weed seed and propagules. 7.4) Regulate human, pack animal, and livestock entry into burned areas at risk for weed invasion until desirable site vegetation has recovered sufficiently to resist weed invasion.

Integrated Weed Management Practices for *Lands Stewardship Projects and Maintenance Programs*

Objective	Best Known Practice
VEGETATION MANAGEMENT	
	Timber Harvest Operations & Stewardship Contracting
VM-1) Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds.	1.1) Treat weeds on contracted projects, emphasizing treatment of weed infestations on existing landings, skid trails, and helibases before activities commence. 1.2) Train contract administrators to identify noxious weeds and select lower risk sites for landings and skid trails. 1.3) Encourage operators to maintain weed-free mill yards, equipment parking, and staging areas. 1.4) Use standard timber sale contract clauses such as WO-C/CT 6.36 to ensure appropriate equipment cleaning.
VM-2) Retain native vegetation in and around project activity and minimize soil disturbance.	2.1) Minimize soil disturbance to no more than needed to meet project objectives. Logging practices to reduce soil disturbance include, but are not limited to: ▪ Over-snow logging ▪ Skyline or helicopter logging ▪ Reuse landings, skid trails and helibases when they are weed free 2.2) Minimize period from end of logging to site preparation, re-vegetation, and contract closure.
	Post Vegetation Management Operations
VM-3) Retain native vegetation in and around project activity and minimize soil disturbance.	3.1) Minimize soil disturbance to no more than that needed to meet vegetation management objectives. Prevention practices to reduce soil disturbance include, but are not limited to: Minimizing heat transfer to soil in burning by: • Treating fuels in place (broadcast burning) instead of piling • Using small, tall steep piles • Minimizing fire-line construction • “preference for” forwarding, rather than using skidders carrying logs, rather than skidding • Using hand fellers instead of machines • Using hand piling rather than machine piling

	• Avoiding decking logs in the woods • Using low PSI (impact) equipment (big tires)
VM-4) Encourage native vegetation on bare ground.	4.1) Recognize the need for prompt growth of native vegetation, long-term restoration and weed suppression where forested vegetation management has created openings. 4.2) Allow natural seedbank to provide vegetation if possible, next preference is for native seed grown from local collections. All seed must be certified weed seed free for all species on the forest noxious weed list.
RANGE MANAGEMENT	***Grazing***
RM-1) Consider noxious weed prevention and control practices in the management of grazing allotments.	1.1) Include weed prevention practices, inspection and reporting direction, and provisions for inspection of livestock concentration areas in allotment management plans and annual operating instructions for active grazing allotments. 1.2) For each grazing allotment containing existing weed infestations, include prevention practices focused on preventing weed spread and cooperative management of weeds in the annual operating instructions. Prevention practices may include, but are not limited to: ▪ Maintaining healthy vegetation ▪ Preventing weed seed transportation ▪ Minimize potential ground disturbance - Altering season of use or Exclusion ▪ Weed control methods ▪ Revegetation ▪ Inspection and Monitoring ▪ Reporting ▪ Education
RM-2) Minimize transport of weed seed into and within allotments.	2.1) If livestock are potentially a contributing factor to seed spread, schedule units with existing weed infestations to be treated prior to seed-set before allowing livestock on those units. Schedule these infested units to be the last in the rotation. 2.2) If livestock were transported from a weed-infested area, corral livestock with weed free feed, and annually inspect and treat allotment entry units for new weed infestations. 2.3) Designate pastures as unsuitable range to livestock grazing when infested to the degree that livestock grazing will continue to either exacerbate the condition on site or contribute to weed seed spread.

RM-3) Maintain healthy, desirable vegetation that is resistant to weed establishment.	3.1) Through the allotment management plan or annual operating instructions, manage the timing, intensity (utilization), duration, and frequency of livestock activities associated with harvest of forage and browse resources to maintain the vigor of desirable plant species and retain live plant cover and litter. 3.2) Manage livestock grazing on restoration areas to ensure that vegetation is well established. This may involve exclusion for a period of time consistent with site objectives and conditions. Consider practices to minimize wildlife grazing on the areas if needed.
RM-4) Minimize ground disturbance.	4.1) Include weed prevention practices that reduce ground disturbance in allotment management plans and annual operating instructions. Consider for example: changes in the timing, intensity, duration, or frequency of livestock use; location and changes in salt grounds; restoration or protection of watering sites; and restoration of yarding/loafing areas, corrals, and other areas of concentrated livestock use. 4.2) Inspect known areas of concentrated livestock use for weed invasion. Inventory and manage new infestations.
RM-5) Promote weed awareness and prevention efforts among range permittees.	5.1) Use education programs or annual operating instructions to increase weed awareness and prevent weed spread associated with permittees' livestock management practices. 5.2) To aid in their participation in allotment weed control programs encourage permittees to become certified pesticide use applicators.
WATERSHED MANAGEMENT	
WM-1) Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds.	1.1) Inspect and document for early detection of noxious weed establishment and spread in riparian areas and wetlands. Eradicate new infestations before they become established. 1.2) Address noxious weed risks in watershed restoration projects and water quality management plans. 1.3) Pay particular attention to practices listed under "General Weed Prevention Practices for Site-disturbing Projects and Maintenance Programs" and "Aquatic Weed Mngt. Practices".

	Wildlife, and Fisheries
WM-2) Avoid creating soil conditions that promote weed germination and establishment.	1.1) Periodically inspect for weeds and document those areas where wildlife concentrate in the winter and spring resulting in overuse or soil scarification. 1.2) Use weed-free materials at big game baiting stations. 1.3) For wildlife openings and habitat improvement projects, follow the practices outlined in General Weed Prevention Practices and in Vegetation Management.

Integrated Weed Management Practices for *Engineering/Roads/Minerals Projects and Maintenance Programs*

Objective	Best Known Practice
ENGINEERING/ ROADS/ MINERALS	***Project Planning***
ERM-1) Incorporate weed prevention into project layout, design, alternative evaluation, and decisions.	1.1) Include weed surveys at the project planning stage as outlined in the General Weed Management Practices. 1.2) For timber sale purchaser road maintenance and decommissioning, use standard timber sale contract clauses such as WO-C/CT 6.36 to ensure appropriate equipment cleaning. 1.3) For road new and reconstruction conducted as part of public works (construction) contracts and service contracts include contract language for equipment cleaning such as is in WO-C/CT 6.36. 1.4) Include weed prevention measures, including project inspection and documentation, in minerals operation and reclamation plans.
	Project Implementation
ERM-2) Prevent conditions favoring weed establishment, minimize bare soil conditions and promote vegetation on bare ground.	2.1) Ensure that all outside (rental, other agency or unit) equipment brought onto the forest is free of weed seed and propagules before it is accepted by the contracting officers representative. 2.2) Schedule and coordinate all earth moving or soil disturbing activities (such as pulling of noxious weed-infested roadsides or ditches) in consultation with the local weed specialist. Do not blade or pull roadsides and ditches that are infested with noxious weeds unless doing so is required for public safety or protection of the roadway. If the ditch must be pulled, ensure the weeds remain on-site. Blade from least infested to most infested areas. When it is necessary to blade noxious weed-infested roadsides or ditches, schedule activity when seeds or propagules are least likely to be viable and to be spread. Minimize soil surface disturbance and contain bladed material on the infested site.

	Decommissioning and Maintenance
ERM-3) Minimize roadside sources of weed seed that could be transported to other areas.	3.1) Retain bonds until reclamation requirements are completed, including weed treatments, based on inspection and documentation. Require follow-up monitoring based on seed viability in soil of known and potential weed species. 3.2) Periodically inspect system roads and rights-of-way for invasion of noxious weeds. Train road maintenance staff to recognize weeds and report locations to the local weed specialist. Inventory weed infestations and schedule them for treatment. 3.3) Avoid acquiring water for dust abatement from weed-infested areas. 3.4) For timber sale purchaser road maintenance and decommissioning, use contract clauses for equipment cleaning such as WO-C/CT 6.36. 3.5) For road maintenance and decommissioning conducted as part of public works (construction) contracts and service contracts include contract language for equipment cleaning such as is in WO-C/CT 6.36. 3.6) Treat weeds in road decommissioning and reclamation projects before roads are made impassable. Re-inspect and plan follow-up monitoring and treatment based on initial inspection and documentation.

Integrated Weed Management Practices for *Public Services and Aquatic Projects*

Objective	Best Known Practice
	Recreation, Wilderness, and Special Management Areas
PS-1) Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds..	1.1) On designated public lands, issue closure orders that specify the use of weed free or weed-seed-free feed, hay, straw, and mulch. Refer to 36 CFR 251.50. Cooperate with State, County, Tribal governments, and other agencies to develop and support publicly available weed-free materials. 1.2) Where they exist, post and enforce weed-free feed orders. (FSM 2081.03) 1.3) Encourage backcountry pack and saddle stock users to feed stock only weed-free feed for several days before travel on National Forest System lands. 1.4) Inspect, brush, and clean animals, especially hooves and legs before entering public land. Inspect and clean tack and equipment. 1.5) Tie or hold stock in ways that minimize soil disturbance and avoid loss of desirable native vegetation. 1.6) Annually inspect all campgrounds, trailheads, and recreation areas that are open to public vehicle use for weeds; document and treat new infestations. 1.7) Maintain trailheads, boat launches, outfitter and public camps, picnic areas, airstrips, roads leading to trailheads, and other areas of concentrated public use in a weed-free condition. Consider high use recreation areas as high priority for weed eradication. 1.8) Consider seasonal or full time closure of campgrounds, picnic areas, and other recreation use areas until weeds are reduced to levels that minimize potentials for spread. 1.9) In areas susceptible to weed infestation, limit vehicles to designated maintained travel routes. Inspect and document inspections on travel ways for weeds and treat as necessary.

PS-2) Promote weed prevention practices through public awareness and education.	2.1) Educate public land users to identify common invasive weeds and to avoid recreating in infested areas. If weeds are encountered public should inspect and clean motorized and mechanized trail vehicles of weeds and their seeds. 2.2) Post weed awareness messages and prevention practices at strategic locations such as trailheads, roads, boat launches, and forest portals. 2.3) In weed-infested areas, post weed awareness messages and prevention practices at roadsides.
	Lands and Special Uses
PS-3) Avoid or remove sources of weed seed and propagules to prevent new weed infestations and the spread of existing weeds.	3.1) Consider weed status of lands when making land acquisition or disposal decisions. 3.2) Conduct weed inventories of all lands considered for acquisition. 3.3) Land acquisition decisions may require weed control as a condition of sale or exchange. 3.4) Include a weed prevention and control provision in all special-use permits, authorizations, or other grants involving ground-disturbing activities. (Reference to sample provision R1-D4 in Appendix 2). Include this provision in existing ground-disturbing authorizations that are being amended for other reasons; consider including this provision by amending existing ground-disturbing authorizations as necessary. 3.5) Require weed prevention and control in operating and maintenance plans when authorized activities present a high risk for weed infestation or the location of the activity is vulnerable to weed introduction or spread.
AQUATIC MANAGEMENT	
AM-1) To prevent new weed infestations and the spread of existing weeds, avoid or remove sources of weed seed and propagules.	1.1) Provide outreach to Arizona Game and Fish Department, counties, and other agencies concerning the unique prevention measures and control practices associated with aquatic weeds. 1.2) Rinse and inspect boats (including rafts), trailers, and other boating equipment and remove any visible plants, animals, or mud before leaving any waters or boat launching facilities. Drain water from motor, live well, bilge, and transom wells while on

	land before leaving the vicinity. Wash and dry boats, tackle, downriggers, anchors, nets, floors of boats, props, axles, trailers, and other boating equipment to kill weeds not visible at the boat launch. Clean with high-pressure or hot (90 degrees) water, or dry boat and equipment for at least 5 days 1.3) Maintain a 100 feet buffer of aquatic weed-free clearance around boat launches and docks. 1.4) Promptly post sites if aquatic invasives are found. Confine infestation. Where prevention is infeasible or ineffective, close facility until infestation is contained. 1.5) Wash and dry tackle, downriggers, float tubes, waders, and other equipment to remove or kill harmful species not visible at the boat launch. 1.6) Avoid moving weed plants from one body of water to another. 1.7) Avoid running personal watercraft through aquatic plants near boat access locations. Instead, push or winch watercraft onto the trailer without running the engine. After the watercraft is out of the water, start the engine for 5-10 seconds to blow out any excess water and vegetation. After engine has stopped, pull weeds out of the steering nozzle. Inspect trailer and any other sporting equipment for weed fragments and remove them before leaving the access area. Wash or dry watercraft before transporting to another body of water. 1.8) Waterfowl hunters may use elliptical, bulb-shaped, or strap anchors on decoys, because these types of anchors avoid collecting submersed and floating aquatic plants. Inspect waders and hip boots, removing any aquatic plants, and where possible, rinse mud from them before leaving the water. Remove aquatic plants, animals, and mud attached to decoy lines and anchors. 1.9) Construct new boat launches and ramps at deep-water sites. Restrict motorized boats in lakes near areas that are infested with weeds. Move sediment to upland or quarantine areas when cleaning around culverts, canals, or irrigation sites. Clean equipment before moving to new sites. Inspect and clean equipment before moving from one project area to another.

FOREST SERVICE TIMBER SALE CONTRACT CLAUSES

WO-C6.36

C6.36 – EQUIPMENT CLEANING. (7/00) Unless the entire Sale Area is already infected with noxious weeds, Purchaser shall ensure that prior to moving on to the Sale Area all off-road equipment, which last operated in areas known by Forest Service to be infected with noxious weeds, is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds. Purchaser shall certify in writing that off-road equipment is free of noxious weeds prior to each start-up of timber sale operations and for subsequent moves of equipment to Sale Area. Measures taken to ensure that off-road equipment is free of noxious weeds will be identified. "Off-road equipment" includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars, and similar vehicles. A current list of noxious weeds of concern to Forest Service is available at the Forest Supervisor's Office.

The Purchaser must clean off-road equipment prior to moving between cutting units on this timber sale that are known to be infested with noxious weeds and other units, if any, that are free of such weeds. Sale Area Map shows areas, known by Forest Service prior to timber sale advertisement, that are free of specific noxious weeds species of concern.

Purchaser shall employ whatever cleaning methods are necessary to ensure that off-road equipment is free of noxious weeds. Equipment shall be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools are not required.

Purchaser shall notify Forest Service at least 5 working days prior to moving each piece of off-road equipment on to the Sale Area, unless otherwise agreed. Notification will include identifying the location of the equipment's most recent operations. If the prior location of the off-road equipment cannot be identified, Forest Service may assume that it was infested with noxious weed seeds. Upon request of Forest Service, Purchaser must arrange for Forest Service to inspect each piece of off-road equipment prior to it being placed in service.

If purchaser desires to clean off-road equipment on National Forest System land, such as at the end of a project or prior to moving to a new unit that is free of noxious weeds, Purchaser and Forest Service shall agree on methods of cleaning, locations for the cleaning, and control of off-site impacts, if any.

New infestations of noxious weeds, of concern to Forest Service and identified by either Purchaser or Forest Service, on the Sale Area or on the haul route, shall be promptly reported to the other party. Purchaser and Forest Service shall agree on treatment methods to reduce or stop the spread of noxious weeds when new infestations are found.

INSTRUCTIONS: Include in all new contracts.

The Forest Service must identify, on the sale area map, units that are free of specific noxious weed species of concern.

The prospectus for the sale must notify prospective purchasers that maps of these known locations are available from the local Forest Supervisor's Office or Ranger District Station. A list of noxious weeds of concern to the Forest Service (normally included in the Noxious Weed Program Guide) must be available for the purchaser's inspection. The current National Forest Noxious Weed Program Guide, noxious weed atlas, or other data sources, as needed, will be used to determine locations of known infestations.

Significant changes in the status of noxious weed infestations on the sale may require contract modifications to deal with changed conditions. An example might be where new noxious weed infestations are discovered after contract award, which require costly additional methods to prevent the spread of such infestations.

WO-CT6.36

CT6.36 – EQUIPMENT CLEANING. (7/00) Unless the entire Sale Area is already infected with noxious weeds, Purchaser shall ensure that prior to moving on to the Sale Area all off-road equipment, which last operated in areas known by Forest Service to be infected with noxious weeds, is free of soil, seeds, vegetative matter, or other debris that could contain or hold seeds. Purchaser shall certify in writing that off-road equipment is free of noxious weeds prior to each start-up of timber sale operations and for subsequent moves of equipment to Sale Area. Measures taken to ensure that off-road equipment is free of noxious weeds will be identified. "*Off-road equipment*" includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars, and similar vehicles. A current list of noxious weeds of concern to Forest Service is available at the Forest Supervisor's Office.

The Purchaser must clean off-road equipment prior to moving between cutting units on this timber sale that are known to be infested with noxious weeds and other units, if any, that are free of such weeds. Sale Area Map shows areas, known by Forest Service prior to timber sale advertisement, that are free of specific noxious weeds species of concern.

Purchaser shall employ whatever cleaning methods are necessary to ensure that off-road equipment is free of noxious weeds. Equipment shall be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools are not required.

Purchaser shall notify Forest Service at least 5 working days prior to moving each piece of off-road equipment on to the Sale Area, unless otherwise agreed. Notification will include identifying the location of the equipment's most recent operations. If the prior location of the off-road equipment cannot be identified, Forest Service may assume that it was infested with noxious weed seeds. Upon request of Forest Service, Purchaser must arrange for Forest Service to inspect each piece of off-road equipment prior to it being placed in

service.

If purchaser desires to clean off-road equipment on National Forest System Land, such as at the end of a project or prior to moving to a new unit that is free of noxious weeds, Purchaser and Forest Service shall agree on methods of cleaning, locations for the cleaning, and control of off-site impacts, if any.

New infestations of noxious weeds, of concern to Forest Service and identified by either Purchaser or Forest Service, on the Sale Area or on the haul route, shall be promptly reported to the other party. Purchaser and Forest Service shall agree on treatment methods to reduce or stop the spread of noxious weeds when new infestations are found.

INSTRUCTIONS: Include in all new contracts.

The Forest Service must identify, on the sale area map, units that are free of specific noxious weeds species of concern.

The prospectus for the sale must notify prospective purchasers that maps of these known locations are available from the local Forest Supervisor's Office or Ranger District Station. A list of noxious weeds of concern to the Forest Service (normally included in the Noxious Weed Program Guide) must be available for the purchaser's inspection. The current National Forest Noxious Weed Program Guide, noxious weed atlas, or other data sources, as needed, will be used to determine locations of known infestation.

Significant changes in the status of noxious weed infestations on the sale may require contract modifications to deal with changed conditions. An example might be where new noxious weed infestations are discovered after contract award, which require costly additional methods to prevent the spread of such infestations.